Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1-20. (Cancelled)

21. (Currently Amended) A system for producing a pulse code modulation (PCM) signal, comprising:

a first filter configured to produce an [[input]] in-phase signal I(n) from a secondary audio program (SAP) signal;

a second filter ~~that generates~~ configured to produce a quadrature-phase signal Q(n) from the [[input]] in-phase signal I(n);

a FM demodulator configured to ~~generate~~ produce a FM demodulated signal substantially equal to Z(n)/X(n), wherein Z(n) and X(n) are functions of I(n) and Q(n), the FM demodulator including a denominator device that estimates a value 1/X(n) based at least in part on a prior estimated value of 1/X(n) and a transition speed of X(n); and

a third filter configured to produce the PCM signal from the FM demodulated signal ~~substantially equal to Z(n)/X(n)~~.

22. (Previously Presented) The system of claim 21, wherein Z(n) is substantially equal to $[I(n)Q'(n)-I'(n)Q(n)]$ and X(n) is substantially equal to $[I^2(n)+Q^2(n)]$.

23. (Original) The system of claim 21, wherein the SAP signal is a constant magnitude signal, a sine wave, or a cosine wave.

24. (Original) The system of claim 21, wherein the first filter is a band pass filter.

25. (Original) The system of claim 21, wherein the second filter is a Hilbert filter.

26-31. (Cancelled)

32. (Previously Presented) The system of claim 21, wherein the denominator device estimates the value 1/X(n) based at least in part on the prior estimated value of 1/X(n) plus an error value.

33. (Previously Presented) The system of claim 32, wherein the error value is substantially equal to [1-X(n)/X(n-1)].

34. (Currently Amended) The system of claim 33, wherein the error value is scaled by a value of a scaling coefficient before being added to the prior estimated value of 1/X(n).

35. (New) The system of claim 34, wherein the value of the scaling coefficient is based on the transition speed of X(n).